(11) EP 1 445 873 A2

(12)

## **EUROPEAN PATENT APPLICATION**

(43) Date of publication: 11.08.2004 Bulletin 2004/33

(51) Int Cl.<sup>7</sup>: **H04B 1/69**, H04B 1/707, H04L 25/02

(21) Application number: 04250619.6

(22) Date of filing: 05.02.2004

(84) Designated Contracting States:

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IT LI LU MC NL PT RO SE SI SK TR

Designated Extension States:

AL LT LV MK

(30) Priority: **06.02.2003 JP 2003029883 14.07.2003 JP 2003196748** 

(71) Applicant: NTT DoCoMo, Inc. Tokyo 100-6150 (JP)

(72) Inventors:

 Atarashi, Hiroyuki Int. Prop. Dep. NTT DoCoMo Inc. Chiyoda-ku Tokyo 100-6150 (JP)  Sawahashi, Mamoru Int. Prop. Dep. NTT DoCoMo Inc. Chiyoda-ku Tokyo 100-6150 (JP)

 Kawamura, Teruo Int. Prop. Dep. NTT DoCoMo Inc.
 Chiyoda-ku Tokyo 100-6150 (JP)

(74) Representative: Maury, Richard Philip MARKS & CLERK, 57-60 Lincoln's Inn Fields London WC2A 3LS (GB)

- (54) Mobile station, base station, program for and method of wireless transmission based on chip repetition and IFDMA.
- (57) A mobile station that wirelessly transmits to a base station by DS-CDMA a signal spread by multiplying a spreading code includes a chip-pattern generating unit that generates a predetermined chip pattern by per-

forming chip repetition for a predetermined number of repetitions to a spreading chip sequence, and a multiplying unit that multiplies to a signal including the predetermined chip pattern generated by the generating unit a phase specific to the mobile station.

FIG.1

